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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,254	LIGHTSTONE ET AL.	
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/05/07 has been entered.

2. Applicant's arguments with respect to claims 1-26, and 30-32 as filed on 12/05/07 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 27-29 (amended) remain rejected under 35 U.S.C. 102(b) as being anticipated by Ribas-Corbera.

4. Applicant's arguments with regards to amended claims 27-29 have been considered but are not persuasive.

5. The Applicant presents one argument contending the Examiner's rejection of previously pending claims 27-29 under 35 U.S.C. 102(b) as being anticipated by Ribas-Corbera, said argument being directed towards the "tracking changes in the long term average bit rate…by feedback control based on a difference between said average bit rate and an actual bit rate…" and further augments this position by asserting that Ribas-Corbera discloses updating on a GOP basis rather than a long term basis as in the claims (Amendment of 12/05/07: page 10, lines 27-33; page 11, lines 1-12). The Examiner respectfully disagrees. Firstly, from the language of the claims "…a long term basis…" is to be met by the length of duration of a single GOP (i.e. 12-30 frames, but usually fifteen) as that is greater than the duration of a singular current frame. Until a

specific length is associated with this term, the Examiner would assert that the length of a singular GOP is considered sufficient enough to read on this limitation. However, even in the alternative, the Examiner notes that the updating is actually performed based on a speed convergence factor of a multiple number of GOPS (Ribas-Corbera: column 6, lines 1-5; column 9, lines 15-25: "120 GOPs"), which the Examiner would argue is actually a "…long term basis for tracking…" as in the claim. The Examiner would further note that this is tracking is done based on "…feedback control based on a difference between said average bit rate and an actual bit rate…" (Ribas-Corbera: column 7, lines 45-50). Accordingly, the Examiner maintains that the limitation remains met.

A detailed rejection of claims 1-32 follows below.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Ribas-Corbera.

Ribas-Corbera discloses a method (Ribas-Corbera: figure 6) of variable bit rate control in a video compression encoder (Ribas-Corbera: figure 5) having a variable bit rate controller (Ribas-Corbera: column 11, lines 45-52) with a peak bit rate (Ribas-Corbera: column 7, lines 15-20) and a selectable average bit rate (Ribas-Corbera: column 9, lines 15-20), comprising: measuring changes in long-term average bit rate of an output bitstream of said encoder (Ribas-Corbera: column 7, lines 49-52); and adjusting said average bit rate of said variable bit rate controller to track said changes in long-term (Ribas-Corbera: column 6, lines 1-5; column 9, lines 10-25) average bit rate (Ribas-Corbera: column 7, lines 55-65) by feedback control based on a difference between said average bit rate and an actual bit rate (Ribas-Corbera: column 7, lines 45-50), as in claim 27.

Regarding claim 28, Ribas-Corbera discloses wherein said adjusting comprises: adapting to said changes in long-term average bit rate according to a time constant (Ribas-Corbera: column 10, lines 50-60), as in the claim.

Regarding claim 29, Ribas-Corbera discloses wherein said adjusting comprises: adapting to said changes in long-term average bit rate according to a proportional integral controller response (Ribas-Corbera: column 12, lines 55-67), as in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-6 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ribas-Corbera in view of Hanamura et al., (hereinafter referred to as "Hanamura").

Ribas-Corbera discloses a rate controller for a block-based video encoder (Ribas-Corbera: figure 5), comprising: a variable bit rate (VBR) controller generating a first quantization step size for a current picture (Ribas-Corbera: column 11, lines 45-52); a constant bit rate (CBR) controller generating a second quantization step size (Ribas-Corbera: column 11, lines 1-10); and a selector configured to select a maximum permissible quantization step size from said first quantization step size and said second quantization step size for use by a quantizer in quantizing transform data associated with the current picture (Ribas-Corbera: column 8, lines 25-45), as in claim 1. However, Ribas-Corbera fails to disclose that the VBR controller and CBR controller are operating in tandem and independently from each other, as in the claim. Hanamura the use of video transcoders (Hanamura: figure 1) which disclose a VBR coder (Hanamura: column 13, lines 50-55) and a CBR coder (Hanamura: column 14, lines 25-35) that operate independently but in tandem with each other (Hanamura: column 3, lines 3-7) in order to for coding flexibility on constrained bitstreams (Hanamura: column 3, lines 8-15). Accordingly, given this teaching, it would have obvious for one of ordinary skill in the art at the time of the invention to incorporate teaching of Hanamura's separate VBR/CBR coders into the Ribas-

Corbera rate controller in order to allow for coding flexibility on constrained bitstreams. The Examiner further notes that even without the secondary Hanamura teaching, the feature of having the VBR and CBR coders operating in tandem but independently of each other as in the claims represents nothing more than separating that which was once integral, a modification which the courts have long established as unpatentable and well within the purview of one of ordinary skill in the art, *Nerwin v. Erlichman, 168 USPQ 177, 179 (PTO Bd. of Int. 1969).* In conclusion, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, has all of the features of claim 1.

Regarding claim 2, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, discloses an input for processing at least one parameter of operation for at least one of said VBR controller and said CBR controller (Ribas-Corbera: column 4, lines 35-40), as in the claim.

Regarding claim 3, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, discloses wherein said at least one parameter includes at least one of a target peak bit rate (Ribas-Corbera: column 7, lines 15-20), a target average bit rate (Ribas-Corbera: column 7, lines 10-11), a maximum quantization scale (Ribas-Corbera: column 7, lines 30-35), a minimum quantization scale (Ribas-Corbera: column 7, lines 50-60), a target quantizer scale, a target buffer scale, a VBV buffer size, and a time constant for said VBR rate controller to track changes in long-term average bit rate (Ribas-Corbera: column 6, lines 1-10), as in claim 3.

Regarding claims 4-6, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, discloses wherein an average bit rate of said VBR controller tracks variations in long-term (Ribas-Corbera: column 6, lines 1-5; column 9, lines 15-25) average bit rate of an output bit stream of said video compression encoder (Ribas-Corbera: column 7, lines 49-53), as in the claims.

Ribas-Corbera discloses a method of rate control (Ribas-Corbera: figure 6) in a video compression encoder (Ribas-Corbera: figure 5), comprising: generating a first quantization step size using a constant bit rate encoder for a current picture (Ribas-Corbera: column 11, lines 1-10); forming a second quantization step size using a variable bit rate encoder (Ribas-Corbera: column 11, lines 45-53); and selecting a maximum quantization step size (Ribas-Corbera: column 9, lines 25-35) from said first quantization step size and said second quantization step size (Ribas-Corbera: column 9, lines 25-35) for use in quantizing compressed video data (Ribas-Corbera: column 8, lines 25-45), as in claim 30. However, Ribas-Corbera fails to disclose that the VBR controller and CBR controller are operating in tandem and independently from each other, as in the claim. Hanamura the use of video transcoders (Hanamura: figure 1) which disclose a VBR coder (Hanamura: column 13, lines 50-55) and a CBR coder (Hanamura: column 14, lines 25-35) that operate independently but in tandem with each other (Hanamura: column 3, lines 3-7) in order to for coding flexibility on constrained bitstreams (Hanamura: column 3, lines 8-15). Accordingly, given this teaching, it would have obvious for one of ordinary skill in the art at the time of the invention to incorporate teaching of Hanamura's separate VBR/CBR coders into the Ribas-Corbera rate controlling method in order to allow for coding flexibility on

constrained bitstreams. The Examiner further notes that even without the secondary Hanamura teaching, the feature of having the VBR and CBR coders operating in tandem but independently of each other as in the claims represents nothing more than separating that which was once integral, a modification which the courts have long established as unpatentable and well within the purview of one of ordinary skill in the art, *Nerwin v. Erlichman, 168 USPQ 177, 179 (PTO Bd. of Int. 1969).* In conclusion, the Ribas-Corbera rate controlling method now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, has all of the features of claim 30.

Regarding claims 31-32, the Ribas-Corbera rate controlling method now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, has wherein said forming comprises: tracking long-term average bit rates (Ribas-Corbera: column 7, lines 55-65) using a proportional integral encoder (Ribas-Corbera: column 12, lines 55-67), as in the claims.

10. Claims 10-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ribas-Corbera in view of Tan et al. (hereinafter referred to as "Tan").

Ribas-Corbera discloses a constant bit rate controller for a video compression encoder (Ribas-Corbera: figure 5; column 11, lines 1-10), comprising: a picture analysis module (Ribas-Corbera: column 4, lines 40-50); a complexity model module coupled (Ribas-Corbera: column 5, lines 8-13) to said picture analysis module configured to form a predicted picture complexity estimate based on a statistical frequency within said current picture (Ribas-Corbera: column 9, lines 20-25); a bit allocation module adapted to form a bit allocation consistent with said predicted picture complexity estimate (Ribas-Corbera: column 5, lines 45-55); and a picture-

level quantizer assignment module adapted to assign a quantization step size consistent with said bit allocation (Ribas-Corbera: column 6, lines 20-35), as in claim 10. However, Ribas-Corbera fails to disclose "…a picture analysis module configured to classify macroblocks within a current picture by determine a statistical frequency of each of at least two different types of macroblocks within the current picture and for forming at least one statistical indicator of the complexity of each of said at least two different types of macroblocks based on quantization-dependent bits in the each of said at least two different types of macroblocks…" as in the claims. Tan discloses a video decoder method and apparatus which discloses the use of picture analysis module comprising a video complexity verifier (Tan: column 7, lines 40-67; column 8, lines 1-10) which classifies macroblocks within a current picture by determine a statistical frequency of each of at least two different types of macroblocks (Tan: column 14, lines 40-50) within the current picture and for forming at least one statistical indicator of the complexity of each of said at least two different types of macroblocks based on quantization-dependent bits in the each of said at least two different types of macroblocks (Tan: column 9, lines 15-65) in order to ensure that VBV model constraints are met (Tan: column 15, lines 43-57). Accordingly, given this teaching, it would have obvious to incorporate the Tan macroblock operative picture analysis module into the Ribas-Corbera rate controller in order ensure that Ribas-Corbera video coder adheres to VBV model constraints. The Ribas-Corbera video coder, now incorporating the Tan macroblock operative picture analysis module, has all of the features of claims 10.

Regarding claim 11, the Ribas-Corbera video coder, now incorporating the Tan macroblock operative picture analysis module, discloses wherein said bit allocation module comprises: an ideal bit allocation module configured to calculate an ideal bit allocation based on

an estimated complexity of a picture (Ribas-Corbera: column 4, lines 35-40); a video bitstream verification (VBV) fullness adjustment module configured to adjust said ideal bit allocation to maintain a desired VBV buffer fullness range (Ribas-Corbera: column 12, lines 5-20); and a VBV compliance adjustment module configured to adjust said ideal bit allocation to maintain VBV compliance (Ribas-Corbera: column 6, lines 5-10), as in the claim.

Regarding claims 12-13, the Ribas-Corbera video coder, now incorporating the Tan macroblock operative picture analysis module, discloses wherein said indicator of complexity comprises an energy value for each macroblock type (Ribas-Corbera: column 1, lines 45-55), as in the claims.

Regarding claims 14-15, the Ribas-Corbera video coder, now incorporating the Tan macroblock operative picture analysis module, discloses wherein said complexity model module (Ribas-Corbera: column 5, lines 8-12) generates a measurement of the complexity of each type of macroblock (Tan: column 14, lines 40-50) and a running estimate of macroblock type complexities (Ribas-Corbera: column 9, lines 25-35), as in the claims.

Ribas-Corbera discloses a method of constant bit rate (CBR) rate control in a video compression encoder (Ribas-Corbera: figure 6), comprising: for a current picture (Ribas-Corbera: column 9, lines 15-20: current picture contained in "current GOP"), determining a statistical frequency (Ribas-Corbera: column 4, lines 35-40); generating a statistical indicator indicative of a complexity (Ribas-Corbera: column 5, liens 20-25); predicting picture complexity to form a predicted picture complexity by forming a weighted sum (Ribas-Corbera: column 9, lines 20-25), wherein each picture type has a weight that increases with its statistical frequency and with a value of said statistical indicator (Ribas-Corbera: column 4, lines 50-55); and

generating a bit allocation consistent with said predicted picture complexity (Ribas-Corbera: column 5, lines 50-55); and type of assigning a quantizer step size consistent with said bit allocation (Ribas-Corbera: column 6, lines 20-43), as in the claim. However, Ribas-Corbera fails to disclose "…for a current picture, classifying macroblocks by type and determining a statistical frequency of the macroblock types; generating a statistical indicator indicative of a complexity of each type of macroblock based on quantization-dependent bits in each type of macroblock…" as in the claims. Tan discloses a video decoder method and apparatus which discloses the use of picture analysis step comprising a video complexity verification process (Tan: column 7, lines 40-67; column 8, lines 1-10) which, for a current picture, discloses classifying macroblocks by type and determining a statistical frequency of the macroblock types (Tan: column 14, lines 40-50); generating a statistical indicator indicative of a complexity of each type of macroblock based on quantization-dependent bits in each type of macroblock (Tan: column 9, lines 15-65) in order to ensure that VBV model constraints are met (Tan: column 15, lines 43-57). Accordingly, given this teaching, it would have obvious to incorporate the Tan macroblock operative picture analysis step into the Ribas-Corbera rate controlling method in order ensure that Ribas-Corbera video coder adheres to VBV model constraints. The Ribas-Corbera video coding method, now incorporating the Tan macroblock operative picture analysis step, has all of the features of claims 16.

Regarding claims 17-20, the Ribas-Corbera video coding method, now incorporating the Tan macroblock operative picture analysis step, discloses generating a measurement of the complexity of each type of macroblock (Tan: column 14, lines 40-50), as in the claims.

Regarding claims 21-22, Ribas-Corbera discloses generating a running estimate of macroblock type complexities (Ribas-Corbera: column 9, lines 15-25), as in the claims.

Regarding claim 23, Ribas-Corbera discloses wherein said values of said previous picture are weighted (Ribas-Corbera: column 4, lines 50-54) by an aging factor (Ribas-Corbera: column 4, lines 60-65), as in the claim.

Regarding claims 24-26, Ribas-Corbera discloses generating an intra energy output for bit prediction in a video bitstream compliance check (Ribas-Corbera: column 11, lines 50-65), as in the claims.

11. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ribas-Corbera in view of Hanamura et al., (hereinafter referred to as "Hanamura") as applied to claim 1 above, and further in view of Tan et al., (hereinafter referred to "Tan").

Regarding claim 7, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and further discussed with regards to established case law, has a majority of the features of the claim as has been discussed above concerning claim 1, and further includes a picture analysis module (Ribas-Corbera: column 4, lines 40-50); a complexity model module coupled (Ribas-Corbera: column 5, lines 8-13) to said picture analysis module configured to form a predicted picture complexity estimate based on a statistical frequency within said current picture (Ribas-Corbera: column 9, lines 20-25); a bit allocation module adapted to form a bit allocation consistent with said predicted picture complexity estimate (Ribas-Corbera: column 5, lines 45-55); and a picture-level quantizer assignment module adapted to assign a quantization step size consistent with said bit allocation (Ribas-Corbera: column 6, lines 20-35), as specified. However, Ribas-Corbera-Hanamura combination

fails to "…a picture analysis module configured to classify macroblocks within a current picture by determine a statistical frequency of each of at least two different types of macroblocks within the current picture and for forming at least one statistical indicator of the complexity of each of said at least two different types of macroblocks based on quantization-dependent bits in the each of said at least two different types of macroblocks…" as in the claims. Tan discloses a video decoder method and apparatus which discloses the use of picture analysis module comprising a video complexity verifier (Tan: column 7, lines 40-67; column 8, lines 1-10) which classifies macroblocks within a current picture by determine a statistical frequency of each of at least two different types of macroblocks (Tan: column 14, lines 40-50) within the current picture and for forming at least one statistical indicator of the complexity of each of said at least two different types of macroblocks based on quantization-dependent bits in the each of said at least two different types of macroblocks (Tan: column 9, lines 15-65) in order to ensure that VBV model constraints are met (Tan: column 15, lines 43-57). Accordingly, given this teaching, it would have obvious to incorporate the Tan macroblock operative picture analysis module into the Ribas-Corbera-Hanamura combination in order ensure that Ribas-Corbera video coder adheres to VBV model constraints. The Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and the Tan macroblock operative picture analysis module, has all of the features of claim 7.

Regarding claim 8, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and the Tan macroblock operative picture analysis module, has wherein said indicator of complexity comprises an energy value calculated from an

activity measurement (Ribas-Corbera: column 1, lines 45-55), of macroblocks (Tan: column 14, lines 40-50), as in the claim.

Regarding claim 9, the Ribas-Corbera rate controller now modified to implement separate VBR/CBR coders as shown by Hanamura and the Tan macroblock operative picture analysis module, has wherein said bit allocation module comprises: an ideal bit allocation module configured to calculate an ideal bit allocation based on an estimated complexity of a picture (Ribas-Corbera: column 4, lines 35-40); a video bitstream verification (VBV) fullness adjustment module configured to adjust said ideal bit allocation to maintain a desired VBV buffer fullness range (Ribas-Corbera: column 12, lines 5-20); and a VBV compliance adjustment module configured to adjust said ideal bit allocation to maintain VBV compliance (Ribas-Corbera: column 6, lines 5-10), as in the claim.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eleftheriadis discloses methods and an apparatus for performing digital image and video segmentation and compression using 3-D depth information. Viscito discloses a hypothetical reference decoder for compressed image and video. Hurst discloses rate control for bitstream re-encoding. Wang discloses dynamic bit allocation for statistical multiplexing of compressing and uncompressed digital video signals.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andy S. Rao
Primary Examiner
Art Unit 2621

asr
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Primary Examiner, Art Unit 2621
February 28, 2008